**Functions**

For the following, use *f(x) = x2 – x – 2* , *g(x) = 4x3+8x,*  and *h*(x) = x + 1.

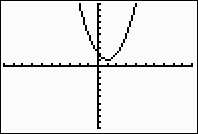
1. *f(-1) =*
2. *h(g(x)) =*
3. *g(h(-3)) =*
4. *The inverse of h(x) is \_\_\_\_\_\_\_\_\_\_.*
5. *Where along the x axis does h(x) reach a value of 5?*
6. *Where along the x axis does f(x) reach a value of 4?*
7. *What is the value of h(x) when x is 1?*
8. *What is the value of g(x) when x is 1?*

For the next ones, use the table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | x = 1 | x = 2 | x = 3 | x = 4 |
| *a(x)* | 1 | 3 | 2 | 4 |
| *b(x)* | 4 | 3 | 2 | 1 |
| *c(x)* | 2 | 1 | 4 | 3 |

1. *a(2) =*
2. *b(a(1)) =*
3. *c (3) =*
4. *a(b(c(2)))=*
5. *2c(4) =*
6. Where does the c function achieve a value of 1?
7. Where does the b function achieve a value of 1?

Use th*e* picture below for the rest of the problems. Let the function below be called *r(x).*



16. r(0) = 17. r(r(2)) = 18. r(x) = 6. x = ?

1. The r value when x is 3 appears to be \_\_\_.
2. R has a value of 2 when x is \_\_\_\_\_\_\_\_\_\_\_\_.